

## **Amendments to the Specification:**

*On page 1, after the title, insert the following new paragraph:*

### **CROSS-REFERENCE TO RELATED APPLICATION**

This application is the U.S. national phase of PCT Appln. No. PCT/EP2004/007173 filed July 1, 2004, which claims priority to German application 103 31 288.9 filed July 10, 2003.

*At page 1, line 2, please add the following heading and subheading as shown below:*

### **BACKGROUND OF THE INVENTION**

#### **1. Field of the Invention**

*At page 1, line 6, please add the following subheading as shown below:*

#### **2. Description of the Related Art**

*At page 1, line 36, please add the following heading as shown below:*

### **SUMMARY OF THE INVENTION**

*At page 1, line 37 please amend the following paragraphs as shown below:*

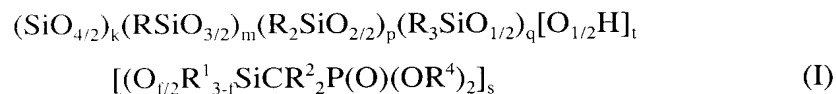
It is thus an object of the present invention to provide a process for preparing phosphonate-modified organosiloxanes, by which, starting from commercially available chemicals, the phosphonate-modified organosiloxanes can be prepared in a very simple manner, with short

reaction times and in high yields. These and other objects are achieved by reaction of a phosphonate functional alkoxysilane with water.

*At page 2, before line 6, please add the following heading and amend the paragraph as shown below:*

#### DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT(S)

The invention provides a process for preparing phosphonate-modified organosiloxanes of the general formula (I):



in which

- R** is a hydrogen atom or a monovalent, optionally -CN-, -NCO-, -NR<sup>5</sup><sub>2</sub>-, -COOH-, -COOR<sup>5</sup>-, -halogen-, -acryloyl-, -epoxy-, -SH-, -OH- or -CONR<sup>5</sup><sub>2</sub>-substituted Si-C-bonded C<sub>1</sub>-C<sub>20</sub>-hydrocarbyl radical or C<sub>1</sub>-C<sub>15</sub>-hydrocarboxy radical in which one or more nonadjacent methylene units in each case may be replaced by -O-, -CO-, -COO-, -OCO-, -OCOO-, -S- or -NR<sup>5</sup>- groups and in each of which one or more nonadjacent methine units may be replaced by -N=, -N=N- or -P= groups,
- R<sup>1</sup>** is a hydrogen atom or a monovalent, optionally -CN-, -NCO-, -COOH-, -COOR<sup>5</sup>-, -halogen-, -acryloyl-, -SH-, -OH- or -CONR<sup>5</sup><sub>2</sub>-substituted Si-C-bonded C<sub>1</sub>-C<sub>20</sub>-hydrocarbyl radical or C<sub>1</sub>-C<sub>15</sub>-hydrocarboxy radical in which one or more nonadjacent methylene units in each case may be replaced by -O-, -CO-, -COO-, -OCO-, -OCOO-, -S- or -NR<sup>5</sup>- groups and in each of which one or more nonadjacent methine units may be replaced by -N=, -N=N- or -P= groups,
- R<sup>2</sup>** is hydrogen or an optionally -CN- or halogen-substituted C<sub>1</sub>-C<sub>20</sub>-hydrocarbyl radical,
- R<sup>4</sup>** is an optionally -CN- or halogen-substituted C<sub>1</sub>-C<sub>20</sub>-hydrocarbyl radical or hydrocarboxy radical, or substituted or unsubstituted polyalkylene oxides having from

1 to 4000 carbon atoms,  
**R<sup>5</sup>** is hydrogen or an optionally –CN- or halogen-substituted C<sub>1</sub>-C<sub>10</sub>-hydrocarbyl radical,  
**k** is an integer from 0 to ~~100,000~~ 100,000,  
**m** is an integer from 0 to ~~100,000~~ 100,000,  
**p** is an integer from 0 to ~~100,000~~ 100,000,  
**q** is an integer from 0 to ~~100,000~~ 100,000,  
**f** is an integer of 1, 2 or 3,  
**s** is an integer of at least 1 and  
**t** is an integer of at least 0,

where

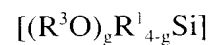
**k + m + p + q** is an integer of at least 1,

characterized in that

functional silanes of the formula (III):



are reacted with water alone or together with silanes of the general formula (IV):



where

**R<sup>3</sup>** is hydrogen or an optionally –CN- or halogen-substituted C<sub>1</sub>-C<sub>20</sub>-hydrocarbyl radical  
 and  
**g** is an integer of 1, 2, 3 or 4 and

**R, R<sup>1</sup>, R<sup>2</sup>, R<sup>4</sup>, k, m, p, q, f** and **s** are each as defined above.

*At page 7, line 26, please amend the following paragraph as shown below:*

A 250 ml three-neck flask ~~flask~~ with dropping funnel and reflux condenser was initially charged under a nitrogen atmosphere with 99.7 g (0.6 mol) of triethyl phosphite ( $\text{P}(\text{OEt})_3$ , Aldrich, GC 98%). After heating to 140°C, 46.4 g of chloromethyldimethoxymethylsilane (0.3 mol) (Wacker-Chemie GmbH, Munich) were slowly added dropwise with vigorous stirring within 3 hours. Subsequently, the reaction mixture was heated to 170°C for another 30 min. After the excess triethyl phosphite had been removed under reduced pressure, 58.6 g of diethoxyphosphorous ester methyldimethoxymethylsilane (0.23 mol, GC 98%, yield: 76% of theory) were distilled off at a temperature of 133°C and a vacuum of 12 mbar.

*At page 8, line 1, please amend the following paragraph as shown below:*

**Example 2 (noninventive):**

A 250 ml three-neck flask ~~flask~~ with dropping funnel and reflux condenser was initially charged under a nitrogen atmosphere with 124.5 g (0.75 mol) of triethyl phosphite ( $\text{P}(\text{OEt})_3$ , Aldrich, GC 98%). After heating to 140°C, 69.3 g of chloromethyldimethylmethoxysilane (0.5 mol) (Wacker-Chemie GmbH, Munich) were slowly added dropwise with vigorous stirring within 2.5 hours. Subsequently, the reaction mixture was heated to 170°C for another 30 min. After the excess triethyl phosphite had been removed under reduced pressure, 100.4 g of diethoxyphosphorous ester methyldimethylmethoxysilane (0.42 mol, GC 98.2%, yield: 83.6% of theory) were distilled off at a temperature of 118-122°C and a vacuum of 11 mbar.

*At page 8, line 17, please amend the following paragraph as shown below:*

**Example 3 (noninventive):**

A 250 ml three-neck flask ~~flask~~ with dropping funnel and reflux condenser was initially charged under a nitrogen atmosphere with 112.2 g (0.675 mol) of triethyl phosphite ( $\text{P}(\text{OEt})_3$ , Aldrich, GC 98%). After heating to 140°C, 76.8 g of chloromethyltrimethoxysilane (0.45 mol) (Wacker-Chemie GmbH, Munich) were slowly added dropwise with vigorous stirring within 2.5 hours. Subsequently, the reaction mixture was heated to 170°C for another 30 min. After

the excess triethyl phosphite had been removed under reduced pressure, 105.6 g of diethoxyphosphorous ester methyltrimethoxysilane (0.39 mol, GC 97.4%, yield: 86.2% of theory) were distilled off at a temperature of 135-138°C and a vacuum of 12 mbar.

*At page 8, line 33, please amend the following paragraph as shown below:*

**Example 4 (noninventive):**

A 250 ml three-neck flask ~~flask~~ with dropping funnel and reflux condenser was initially charged under a nitrogen atmosphere with 99.7 g (0.6 mol) of triethyl phosphite ( $\text{P}(\text{OEt})_3$ , Aldrich, GC 98%). After heating to 140°C, 85.1 g of chloromethyltriethoxysilane (0.4 mol) (Wacker-Chemie GmbH, Munich) were slowly added dropwise with vigorous stirring within 1.5 hours. Subsequently, the reaction mixture was heated to 170°C for another 1.5 hours. After the excess triethyl phosphite had been removed under reduced pressure, 95.8 g of diethoxyphosphorous ester methyltriethoxysilane (0.31 mol, GC 98%, yield: 77.4% of theory) were distilled off at a temperature of 146°C and a vacuum of 11-13 mbar.

*At page 9, line 11, please amend the following paragraph as shown below:*

**Example 5 (hydrolysis of dialkoxysilane):**

A 250 ml three-neck flask ~~flask~~ with dropping funnel and reflux condenser was initially charged under a nitrogen atmosphere with 58.6 g of diethoxyphosphorous ester methyldimethoxymethylsilane (0.23 mol, GC 98) from example 1. After heating to 60°C, 18 g of water (1.0 mol) were slowly added dropwise with vigorous stirring within 10 minutes. Subsequently, the reaction mixture was heated to 60°C for another 120 minutes. After the alcohol formed and the excess water had been removed under reduced pressure, 38 g of poly((diethoxyphosphorous ester methyl)methylsiloxane) having an average molecular weight of 1200 g/mol were obtained, and mainly cyclic compounds were present according to  $^1\text{H}$  NMR.